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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/675,823	09/30/2003	C. Brian Atkins	200308889-1	6652

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FORT COLLINS, CO 80527-2400

EXAMINER

AUGUSTINE, NICHOLAS

ART UNIT	PAPER NUMBER
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2179

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/22/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/675,823

Applicant(s)

ATKINS, C. BRIAN

Examiner

Nicholas Augustine

Art Unit

2179

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>3/1/04</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-21 are rejected under 35 U.S.C. 102(b) as being anticipated by Geigel et al (US 20020122067 A1).

As for independent claims 1,8 and 15, Geigel teaches a method for arranging a set of objects within an area, comprising:

- initiating a binary tree and associating a first object with the binary tree (par.69,last line and lines 1-5);
- selecting a subsequent object not included in the binary tree (fig.3, par.69, lines 1-4);
- establishing at least one candidate tree, wherein each candidate tree comprises objects from the binary tree and the subsequent object (par.70, lines 3-9);

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- computing a score for each candidate tree and selecting one candidate tree having a highest score associated with placement of the subsequent object (par.71, lines 2-8);
- repeating (b), (c), and (d) until the candidate tree includes the set of objects (par.64, line 3; a plurality of images to be placed in a file explains the repeated step nature of b-d repeated until done);
- arranging the objects within the area in accordance with the candidate tree (fig.3,4,9).
- providing the above functions for an alternate candidate tree (par.77, line 4 and page creator module).

2. The method of claim 1, wherein the binary tree comprises:

- at least one node (fig.3);
- and at least one leaf emanating from one node (fig.3);
- wherein a subtree of the binary tree comprises a position within the binary tree and all nodes and leaves emanating from the position (fig.3,4,8);
- and wherein a subtree of the candidate tree comprises a location within the candidate tree and all nodes and leaves emanating from the location (fig.3,4,8).
- removing one subtree of the binary tree associated with one desired position (fig.3,4);
- inserting a new node into the binary tree at the desired position (fig.3);

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- associating either a horizontal or a vertical cut with the new node (par.57, lines 5-9);
- inserting a new leaf into the binary tree emanating from the new node (fig.3 and 9);
- associating the new leaf with the subsequent object (fig.8,9);
- inserting the subtree into the binary tree, said subtree also emanating from the new node (fig.4).
- for each node in the candidate tree, characterizing a bounding box of the objects included in the subtree rooted in the node (fig.35, par.57, lines 2-13);
- allocating a region of the area in accordance with the bounding box for each object (fig.35, par.59, lines 1-4 and par.70, lines 1-5).
- determining a fraction of the area occupied by the objects in the candidate tree (par.58, lines 2-9),
- selecting one candidate tree comprises determining the candidate tree having a greatest fraction of the area occupied by the objects in each candidate tree (par.71, lines 1-8 and par.86, lines 11-17)).
- computing the score for each candidate tree comprises assessing minimum and maximum values for object sizes for all objects in the area (par.90, lines 1-5 and par.91, lines 2-7).
- wherein selecting one candidate tree comprises determining the candidate tree having the greatest ratio of minimum area object size value divided by maximum area object size value (par.110, lines 5-12).

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1,8 and 15 are rejected under 35 U.S.C. 102(e) as being anticipated by Kronmiller et al (US 6,701,306 B1).

As for independent claims 1,8 and 15, Geigel teaches a method for arranging a set of objects within an area, comprising:

- two dimensional objects defined in an auto layout with the use of a binary tree to hold information (col.3, lines 56-60 and col.5, line 36)
- data structure for organizing objects on a layout (col.9, line 20)
- initiating a binary tree and associating a first object with the binary tree (col.5, line 3);
- selecting a subsequent object not included in the binary tree (col.6, lines 30-35));
- establishing at least one candidate tree, wherein each candidate tree comprises objects from the binary tree and the subsequent object (col.6, lines 50-62);

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- computing a score for each candidate tree and selecting one candidate tree having a highest score associated with placement of the subsequent object (col.6, line 65 and col.7, lines 4-13);
- repeating (b), (c), and (d) until the candidate tree includes the set of objects (col.7, line 7-20);
- arranging the objects within the area in accordance with the candidate tree (fig.28).
- providing the above functions for an alternate candidate tree (col.7, line 9).

It is noted that any citation to specific, pages, columns, lines, or figures in the prior art references and any interpretation of the references should not be considered to be limiting in any way. A reference is relevant for all it contains and may be relied upon for all that it would have reasonably suggested to one having ordinary skill in the art. In re Heck, 699 F.2d 1331, 1332-33, 216 USPQ 1038, 1039 (Fed. Cir. 1983) (quoting In re Lemelson, 397 F.2d 1006, 1009, 158 USPQ 275, 277 (CCPA 1968)).

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

US 7096445 B1

Non-orthogonal structures and
space tiles for layout, placement,
and routing of an integrated circuit

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US 7093263 B1	System and methodology for supporting a platform independent object format for a run-time environment
US 5136686 A	Non-linear genetic algorithms for solving problems by finding a fit composition of functions
EP 929184 A	Microprocessor implemented method for automatically defining how several digital images should be arranged on page using optimisation techniques to evaluate and format digital images on templates
EP 1220531 A	Image assigning system for digital album, evaluates present set of image page assignment according to album fitness function to determine album score

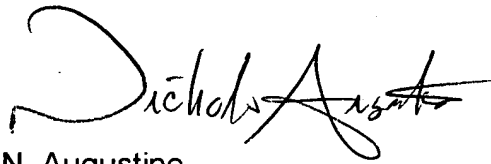
Inquires

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nicholas Augustine whose telephone number is 571-270-1056. The examiner can normally be reached on Monday - Friday: 7:30- 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Weilun Lo can be reached on 571-272-4847. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

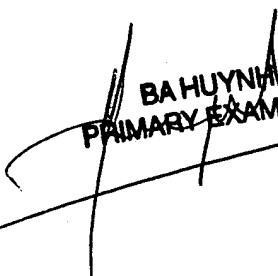
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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



N. Augustine
February 9, 2007

Nicholas Augustine
Examiner
AU: 2179



BA HUYNH
PRIMARY EXAMINER